

REMARKS/ARGUMENTS

In view of the indication of allowable subject matter, claims 4 and 7 have been re-written in independent form including all of the limitations of their base claims and any intervening claims. In addition, claims 4, 7, 15, and 19 have been amended to consistently refer to “reduced-quality”.

Claims 1 and 2 have been cancelled in response to the rejection of these claims over Kwok et al. U.S. Patent 5,889,561.

On page 3 of the Official Action, claim 3 was rejected under 35 U.S.C. 103(a) as being unpatentable over Kwok et al. in view of Boyce U.S. Patent 6,323,098. Applicants respectfully traverse. It is respectfully submitted that it would not have been obvious to modify Kwok in view of Boyce in such a way as to arrive at applicants’ claim 3 because the moving average in Boyce is different from the moving average recited in claim 3 and Boyce is concerned with a scaling problem that is different from the scaling problem addressed by claim 3. In particular, the moving average in Boyce is a moving average of a ratio between the actual no. of bits used when encoding a high resolution frame using a frame-wide quantization scale factor (QP_{CIF}) and the number of bits that a rate-quantization model estimates will be required for encoding of a reduced resolution frame when using the same quantization scale factor (QP_{CIF}). (Boyce, column 7, lines 3-10; see generally Boyce column 6, line 11, to column 7 line 27.) In contrast, the moving average in the applicants’ claim 3 is a moving average of frame size of the frames in the original-quality MPEG video. Boyce is addressing a problem of determining an estimated bit rate for the reduced resolution frame (EB_{QCIF}) from a target bit rate for the corresponding higher resolution frame (TB_{CIF}). (Boyce, FIG. 5, step 104; column 6, lines 59-66.) Boyce says his

“FACTOR is a number which varies slightly for different types of video sequences, but generally does not vary greatly for different frames of the same sequence.” (Boyce, column 6, line 36-38.) In contrast, the applicants’ claim 3 is addressing a different problem of computing a scale factor for each frame to achieve a desired frame size for the reduced-quality MPEG coded video.

Due to these differences between Boyce and the applicants’ invention of claim 3, it is not seen how a person of ordinary skill in the art would have been motivated to arrive at the applicants’ invention of claim 3 by any proper modification of Kwok in view of Boyce. The Official Action cites improvement in computational efficiency (Boyce col. 3, lines 1-63) for a motivation, but this computational efficiency in Boyce is said to be for “multi-resolution video encoding by using information generated during the encoding of lower resolution images to facilitate the encoding of high resolution images.” (Boyce, column 3, lines 49-52.) Moreover, this improvement in computational efficiency is based on Boyce’s method of taking advantage of “a strong correlation between the number of bits required to encode a CIF image at a given quantization parameter with the number of bits required to encode the corresponding QCIF image at the same quantization parameter.” (Boyce, column 6, lines 22-26.) Apparently these advantages would be lost if one would not be computing Boyce’s FACTOR as a ratio between the actual no. of bits used when encoding a high resolution frame using a frame-wide quantization scale factor (QP_{CIF}) and the number of bits that a rate-quantization model estimates will be required for encoding of a reduced resolution frame when using the same quantization scale factor (QP_{CIF}), and using this FACTOR for determining an estimated bit rate for the

reduced resolution frame (EB_{QCIF}) from a target bit rate for the corresponding higher resolution frame (TB_{CIF}).

It is respectfully submitted the rejection of applicants' claim 3 was based on one similarity between Boyce and the applicant's invention of claim 3 (i.e., some kind of moving average), and this rejection should be withdrawn upon further consideration of Boyce as a whole in comparison to the applicants' invention of claim 3. Under 35 U.S.C. 103(a), one must consider the differences between the subject matter sought to be patented and the prior art. A reference should be considered as a whole, and portions arguing against or teaching away from the claimed invention must be considered. Basch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc., 796 F.2d 443, 230 U.S.P.Q. 416 (Fed. Cir. 1986), cert. denied, 484 U.S. 823 (1987). Moreover, "there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant." In re Lee, 277 F.3d 1338, 1343, 61 U.S.P.Q.2d 1430, 1435 (Fed. Cir. 2002) (quoting In re Dance, 160 F.3d 1339, 1343, 48 U.S.P.Q.2d 1635, 1637 (Fed. Cir. 1998)). "[T]eachings of references can be combined only if there is some suggestion or incentive to do so." In re Fine, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988) (Emphasis in original) (quoting ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984)). "[P]articular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed." In re Kotzab, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000). See, for example, Fromson v. Advance Offset Plate, Inc., 755 F.2d 1549, 1556, 225 U.S.P.Q. 26, 31 (Fed. Cir. 1985) (nothing of record

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plainly indicated that it would have been obvious to combine previously separate lithography steps into one process); In re Gordon et al., 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) (mere fact that prior art could be modified by turning apparatus upside down does not make modification obvious unless prior art suggests desirability of modification); Ex Parte Kaiser, 194 U.S.P.Q. 47, 48 (PTO Bd. of Appeals 1975) (Examiner's failure to indicate anywhere in the record his reason for finding alteration of reference to be obvious militates against rejection).

In view of the above, reconsideration is respectfully requested, and early allowance is earnestly solicited.

Respectfully submitted,



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